

## SECTION 3 BORING AND JACKING

### 3.1 GENERAL

### 3.2 MATERIALS AND INSTALLATION

- 3.21 Dimensions and Material
- 3.22 Areas Not Under Jurisdiction
- 3.23 Workmanship

## SECTION 3 BORING AND JACKING

### 3.1 GENERAL

- A) The provisions of the Section shall be the minimum standards for the installation of casing pipe by the boring and jacking method for placement of sewer and water pipelines.
- B) In general, all underground pipelines crossing existing major City roadways, Florida State highways, and railroads shall be installed under these traffic-ways within bored and jacked steel casing pipe. Specific crossing requirements shall be obtained in advance from authority having jurisdiction.
- C) It shall be the responsibility of the contractor to submit the necessary permit documents and data to the appropriate authority and receive approval thereof.

### 3.2 MATERIALS AND INSTALLATION

#### 3.21 Dimensions and Materials

Casing pipes crossing under City roadways shall be located at suitable approved alignments in order to eliminate possible conflict with existing or future utilities and structures, with a minimum 36 inches depth of cover between the top of the casing pipe and surface of the roadway where practicable. Casings shall be new prime steel pipe conforming to the requirements of ASTM Designation A-139, Grade B.

The minimum casing pipe size and wall thickness shall be as-shown in the following table for the sewer and water carrier pipe size indicated.

Carrier Pipe (Nominal Size-inch.)	Casing Pipe (Outside Diameter-Inch.)	Casing Pipe (Wall Thickness-Inch)
4"	16"	0.250"
6"	18"	0.250"
8"	20"	0.250"
10"	24"	0.250"
12"	24"	0.250"
14"	30"	0.375"
16"	30"	0.375"
18"	30"	0.375"
20"	32"	0.375"
24"	36"	0.375"

#### 3.22 Areas Not Under Jurisdiction

For casing pipe crossings under roadways, railroads, or other installations not within the jurisdiction of the City, the contractor shall comply with the regulations of said authority in regard to design, specifications and construction. However, in no case shall the minimum casing pipe diameter and wall thickness, for a specific carrier pipe size be less than that specified under paragraph 3.21 preceding.

### 3.23 Workmanship

- A) The boring and jacking operations shall be done simultaneously with continuous installation, until the casing pipe is in final position. Correct line and grade shall be carefully maintained. Add-on sections of casing pipe shall be full-ring butt welded to the preceding length, developing water-tight total pipe strength joints. The casing installation shall produce no upheaval, settlement, cracking, movement or distortion of the existing roadbed or other facilities. Following placement of the carrier pipe within the steel casing, masonry or bituminous plugs are to be installed at each open end.
- B) Casing pipe holes shall be mechanically bored through the soil by a cutting head on a continuous auger mounted inside the pipe. The auger shall extend a minimum distance beyond the end of the pipe casing to preclude formation of voids outside of the pipe shell.
- C) The casing pipe shall be adequately protected to prevent crushing or other damage under jacking pressure.
- D) Required boring and jacking pits or shafts shall be excavated and maintained to the minimum dimension. Said excavations shall be adequately barricaded, sheeted, braced and dewatered as required.

The distance between the edges of the jacking pit and the pavement is 6 feet minimum.

- E) The carrier pipe shall be either Pressure Class 350 ductile iron pipe, or, with prior City approval, SR14 or DR18 PVC pipe, with restrained joints. The carrier pipes shall be supported by pre-manufactured stainless steel casing spacers within the casing pipe. Wooden skids may be allowed on a case by case basis with prior approval of the City.